## Message

From: Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]

**Sent**: 9/20/2018 5:45:57 PM

To: Strynar, Mark [Strynar.Mark@epa.gov]
Subject: FW: Post Florence Public Health Threats

From: Keeve Nachman < knachman@jhu.edu> Sent: Thursday, September 20, 2018 10:34 AM

To: Detlef R. U. Knappe <knappe@ncsu.edu>; Jane Hoppin <jahoppin@ncsu.edu>

Cc: Buckley, Timothy <Buckley.Timothy@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Katlyn May

<kmay2@ncsu.edu>; Kemp Burdette <kemp@cfrw.us>; Alexandra Lorentz <alorent1@jhmi.edu>

Subject: RE: Post Florence Public Health Threats

Hi Jane and Detlef -

Many thanks for responding so quickly. It's exciting to hear about your GenX work.

If you'd be interested, we are absolutely willing to try to collect additional samples if they would complement what you both have in motion or are planning to submit. Do you have SOPs for sample collection for GenX/other PFAS analysis? If we have cooler space/capacity it shouldn't be any problem for us to add into our plans. If this sounds good and we move forward with it, we may want to discuss whether you have collection/storage media that you could share to ensure consistency in methodology.

Our initial focus is looking at the impacts of the overflowing hog lagoons on swine-specific indicator bacteria, pathogens, and AMR genes. Given much interest from faculty colleagues at JHU, we are also going to collect samples for antibiotic/PPCP analysis, and possibly pesticides and other organics. We are looking to sample the two rivers up-, mid-, and downstream from hog-dense regions in the Neuse and Cape Fear basins. I am not as familiar with the area, but I am hopeful the geography of our interest has sufficient overlap with where you are interested (it looks like that is the case). We will make four trips to NC – the first this weekend and then spaced about two weeks apart.

<u>In terms of our needs</u> – we are sending two very talented doctoral students, but I am not able to make the trip, nor are other faculty. In the interest of keeping them safe on the trip, it would be wonderful if they were able to meet up with folks who are planning to go out, or, short of that, I would love it if they could be advised about accessibility, road closures and other safety concerns. And by all means, we don't want to get in anyone's way! Detlef, do you think it is possible we could coordinate? Our students are traveling Friday and hope to be out in the field on Saturday.

I'm happy to talk by phone if it's easier. My cell is [Ex. 6 Personal Privacy (PP)] I'm in a symposium today and participating in panels/presenting, so if I miss you I'll call back when I get a free moment.

Thanks so much – Keeve

From: Detlef Knappe < <a href="mailto:knappe@ncsu.edu">knappe@ncsu.edu</a>>
Sent: Thursday, September 20, 2018 10:11 AM

To: Jane Hoppin <jahoppin@ncsu.edu>

Cc: Keeve Nachman <knachman@jhu.edu>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Lindstrom, Andrew

<Lindstrom.Andrew@epa.gov>; Katlyn May <kmay2@ncsu.edu>; Kemp Burdette <kemp@cfrw.us>

Subject: Re: Post Florence Public Health Threats

Hi Keeve,

Two of my students are out in the field today to collect water samples in the area surrounding the Chemours plant. We are sampling creeks surrounding the Chemours property, Chemours' old waste channel, the Cape Fear River, and a few private wells. We are working with local residents, one of whom has been collecting samples for us over the last couple of days. That way, we will be able to capture also temporal trends at some locations. We have also reached out to the Cape Fear Public Utility Authority in Wilmington. They are collecting daily samples to assess the impact of the storm on PFAS levels.

What are your interests and needs? Best,
Detlef

On Thu, Sep 20, 2018 at 9:59 AM Jane Hoppin < jahoppin@ncsu.edu > wrote:

Hi Keeve,

We have partnered with the Cape Fear River Watch as part of our GenX Exposure study. I'm sure you are connected with Kemp Burdette, the riverkeeper down there. I've cc'd him here, but he's been pretty busy lately so he may or may not be checking email.

The GenX exposure study includes ~350 Wilmington residents who we collected blood and urine from in Nov 2017 or May 2018. I am planning to submit a time sensitive R21 to look at hurricane effects in these residents, so that we could do some pre-/post- analysis. It would be great to be able to tie in your work.

I also have funds to create a similar cohort in Fayetteville around the Chemours plant along the Cape Fear River. I anticipate that all the people whom we'd like to contact are currently out of their homes. We have delayed our field work in this population until next year...BUT, we could also think about hurricane/flooding exposures for these folks as well.

Our NIEHS P30 Center has community contacts along the Cape Fear River (in Pittsboro, Fayetteville, Lumberton, etc). I've included Katy May our Center community Engagement Director if you want to reach out to her. We're trying to organize our center's activities to be helpful to the people who live there.

I'm on my way to AZ to visit my 89 yo mom, but will check email while I'm gone. Detlef is more likely to have boots on the ground now and may have some extra hands to coordinate with your efforts. It would be great if we could think about how to leverage what information you gather into a health study.

Thanks for your efforts.

Jane

On Thu, Sep 20, 2018 at 9:44 AM, Keeve Nachman < knachman@jhu.edu > wrote:

Many thanks Tim (and I appreciate the kind words!)-

Drs. Knappe and Hoppin, it is very nice to meet you both. In our scramble to identify folks to work with, I have been put in touch (late last night) with Will Hendrick of the Waterkeeper Alliance who has generously connected us with waterkeepers in the Neuse and Cape Fear river basins. While I am certain they are overwhelmed with response-related activities, it is possible they will advise our students on the accessibility of sampling sites.

In the interest of discussion and even possible collaboration, I'll paste a brief paragraph describing our rapidly evolving plans at the end of the email. If either of you are in any way available/interested in having a conversation, providing guidance, or possibly even working with us, I'd be happy to jump on the phone in the very near future. I'm at a USDA symposium all day today, but able to step out for a call if needed. My cell number is 443-803-1739.

Warm regards,

Keeve

We plan to perform a rapid-response assessment of water contamination in flooded rivers over the next two months in order to characterize the potential for increased human exposures of direct health relevance. In short, we are interested in contaminant mobilization in extreme flood events, particularly for areas of dense food animal production. Once safety concerns have been addressed (closed roads, focus on humanitarian response, etc.), we are sending our field team to travel to Wayne, Duplin and nearby counties in North Carolina to collect water samples and assess water quality off public bridges from mid-river, up-, and down-stream of areas of intense hog production. Our current plan is for the team to make its first trip tomorrow (putting them out in the field on Saturday) and then return every 1-2 weeks and sample the same locations for three sampling trips, and then will make a final trip after all river sampling locations have returned to normal stage. We plan to use the samples to measure hog-specific fecal indicator bacteria, pathogens (enteric, but also possibly including viruses), antimicrobial resistance genes, metals, and selected organic chemicals (PPCPs/antibiotics, pesticides, possibly others).

From: Buckley, Timothy < Buckley. Timothy@epa.gov>

Sent: Thursday, September 20, 2018 9:27 AM

To: Detlef R. U. Knappe <knappe@ncsu.edu>; Jane Hoppin <jahoppin@ncsu.edu>

Cc: Keeve Nachman < <a href="mailto:knachman@jhu.edu">knachman@jhu.edu</a>; Lindstrom, Andrew < <a href="mailto:Lindstrom">Lindstrom</a>. Andrew <a href="mailto:knachman@jhu.edu">knachman@jhu.edu</a>; Lindstrom, Andrew <a href="mailto:Lindstrom">Lindstrom</a>. Andrew <a href="mailto:knachman@jhu.edu">knachman@jhu.edu</a>; Lindstrom, Andrew <a href="mailto:knachman@jhu.edu">Lindstrom</a>. Andrew <a href="mailto:knachman

Subject: Post Florence Public Health Threats

Detlef and Jane,

A colleague from Hopkins (Keeve Nachman) with their Center for a Livable Future (CLF) called yesterday inquiring if I knew of anyone doing work related to water contamination hazards in NC post-Florence. You came to mind. Keeve is looking for someone who might be able to assist graduate students that they would like to send. CLF has a lot of capability and experience with this kind of work. You will find Keeve and his colleagues to be wonderful collaborators if you can help/accommodate. Timing is obviously somewhat urgent. They are hoping they can send folks as early as tomorrow.

Thank you.

Tim Buckley

Timothy J. Buckley, PhD

Director of the Exposure Methods & Measurements Division

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Ex. 6 Personal Privacy (PP)

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